Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 73 and 74 of the	)	
Commission's Rules to Establish Rules	)	
For Digital Low Power Television,	)	MB Docket No. 03-185
Television Translator, and Television	)	
Booster Stations and to Amend Rules	)	
For Digital Class A Television Stations	)	

To: The Commission

REPLY COMMENTS OF HARRIS CORPORATION

Harris Corporation ("Harris") respectfully submits these Reply Comments in response to filings submitted regarding the Federal Communications Commission's ("Commission") *Further Notice of Proposed Rulemaking*[1] ("*FNPRM*") on completing the low power television digital television transition (hereinafter "LPDTV transition"). Harris understands and shares the concerns expressed by the LPTV community involving the labor and costs associated with a transition to digital broadcasting. Based on comments submitted by the LPTV community and other interested stakeholders Harris amends its previous proposal and instead recommends a hard LPDTV transition deadline to terminate analog services for all LPTV stations by December 31, 2013 and an out-of-core transition by the later of December 31, 2012 or six months after the Commission grants the applicable station's displacement application. Harris' recommendations

[1] Amendment of Parts 73 and 74 of the Commission's Rules to Establish rules for Digital Low Power Television, Television Translator and Television Booster Stations and to Amend Rules for Digital Class A Stations, MB Docket No. 03-185, *Further Notice of Proposed Rulemaking and Memorandum Opinion and Order*, 25 FCC Rcd. 13833 (rel. Sept. 17, 2010).

are contingent on quick resolution of the current proceeding in order to provide LPTV broadcasters and equipment manufacturers with a reasonable amount of time to meet any deadlines.

Based on the availability of equipment alone LPTV stations would be able to complete their DTV transition over the course of the next two to three years without detrimentally impacting LPTV broadcasters' services or viewers. While there is a readily available supply of modestly priced broadcast equipment from numerous domestic equipment manufacturers, including Harris, the Commission must still address ways for LPTV broadcasters to fund the transition. Harris recommends that the Commission encourage Congress to extend the National Telecommunication and Information Administration's ("NTIA") LPTV and Translator Upgrade Grant Program to all LPTV stations. Harris also believes that requiring LPTV stations operating pursuant to digital STA to file an Annual DTV Ancillary/Supplementary Services Report (Form 317) would be reasonable for information gathering purposes. However, the Commission should not restrict the development of new innovative broadcast offerings by placing fees on ancillary and supplementary services revenue made by LPTV stations operating pursuant to a digital Special Temporary Authority ("STA").

Harris is an international communications and information technology company serving government and commercial markets in more than 150 countries. Harris Broadcast Communications, a division of Harris, is headquartered in Mason, Ohio, and operates the world's largest transmitter manufacturing facility in Quincy, Illinois. As the world's leading broadcast transmission equipment supplier, Harris is the leader in digital solutions for television and radio broadcasting. Harris Broadcast Communications has been at the forefront of the transition to digital television ("DTV"), both domestically and internationally. During the United States full-power DTV transition Harris supplied approximately 80% of the DTV transmitters and encoders. Harris is or has been involved in DTV transitions throughout the world, including in Australia,

Brazil, Canada, Russia, Rwanda, and Vietnam. Harris is committed to helping broadcasters succeed as they transition to the world of digital media.

I. TO COMPLETE THE TRANSITION OF ALL TELEVISION SERVICES TO DIGITAL BROADCASTING THE COMMISSION SHOULD ESTABLISH A HARD TRANSITION DATE FOR CONVERTING LOW-POWER TELEVISION STATIONS TO DIGITAL OPERATIONS.

Now is the appropriate time for the Commission to establish a path forward for transitioning the remainder of the broadcast television band to digital operations. Since the instant docket was established in 2003 the Commission has been cognizant of the delicate balance that must be struck between the Commission's statutory obligations to convert all classes of LPTV stations to digital operations and the Commission's public interest obligations to ensure license holders are not prevented from continuing to provide valuable services to their viewers. Commenters in this proceeding have expressed many valid concerns that the Commission should take into account; however, these concerns should not prevent the Commission in perpetuity from meeting its statutory obligation and providing the benefits of digital broadcasting to all television viewers.

Based on the Comments filed in response to the *FNPRM*, the transition dates proposed in the Joint Comments submitted by the Public Broadcasting Service, Corporation for Public Broadcasting, and Association of Public Television Stations[2] strikes the appropriate balance between the Commission's statutory obligation[3] and the Commission's public interest

[2] *See* Joint Comments of the Public Broadcasting Service, Association of Public Television Stations, and Corporation for Public Broadcasting, MB Docket No. 10-385, pgs. 6-8 (filed December 17, 2010) ("National PTV").

[3] "We conclude that Sections 309(j)(14)(A) and 336(f)(4) ultimately compel LPTV, TV translator and Class A stations to convert to digital. As an integral component of the nation's television system, we believe that Congress intended LPTV, TV translator and Class A stations to transition to digital service. thereby permitting their viewers to realize the benefits of digital broadcast technology." Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations, *Report and Order*, MB Docket No. 03-185, 19 FCC Rcd. 19331, 19337, ¶ 13 (rel. Sept. 30, 2004); *See* 47 U.S.C. § 336(f)(4)(2006) and 47 U.S.C. § 309(j)(14)(A)(2006).

obligation.[4] Accordingly, Harris amends its previous recommendations[5] and now supports a hard transition date of all LPTV stations to digital operations by December 31, 2013 and a digital transition for out-of-core stations by the later of December 31, 2012 or six months after the Commission grants a station's displacement application. Harris continues to oppose any action that would delay the LPDTV transition until after the conclusion of any reallocation or repacking of the broadcast television bands.[6] Instead, the Commission should wait until the completion of the LPDTV transition before taking any steps to repack or reallocate existing broadcast television spectrum. Doing so will provide the Commission with a better understanding of television broadcasters' digital spectrum allocations and capabilities. It will also allow the Commission to determine what efficiencies can be gained from broadcasters' spectrum without repacking or reallocation.

II. AFFORDABLE LOW-POWER DIGITAL BROADCASTING TRANSMISSION EQUIPMENT IS READILY AVAILABLE AND INSTALLATION COULD EASILY BE COMPLETED BY 2013.

The benefits provided to both LPTV station operators and the American public by transitioning all LPTV stations to digital broadcasting is immense.[7] Harris reaffirms that there is

[4] "Our goals in this proceeding are to establish a regulatory framework that will hasten the transition of LPTV and TV translator stations to digital operations and do so in a manner that minimizes disruption of existing service to the consumers served by analog LPTV and translator stations." Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations, *Notice of Proposed Rulemaking*, MB Docket No. 03-185, 18 FCC Rcd 18365, 18366, ¶ 2 (rel. Aug. 29, 2003) ("*LPTV Transition NPRM*").

[5] *See* Comments of Harris Corporation, MB Docket No. 03-185, pg. 2 (filed December 17, 2010) ("Harris").

[6] Id. at 6-7.

[7] "Across the country, full-power TV stations now provide their viewers with clearer sound and video, as well as other advanced services. LPTV viewers deserve to experience these benefits of digital technology. For example, digital broadcasting will enable LPTV broadcasters to offer High Definition ("HD") content. It will also enable multi-casting, interactive capabilities and mobile digital television (mobile DTV). Digital broadcasting will enhance the quality of LPTV stations' local news, weather, and public affairs programming, increasing LPTV stations' ability to compete with already-digital full-power TV stations. This will preserve and promote the public demand for and the viability of locally-focused LPTV channels." Comments of the Consumer Electronics Association, MB Docket No. 03-185, pgs. 5-6 (filed December 17, 2010) ("CEA"); "Congress and the Commission implemented the

a readily available supply of modestly priced broadcast equipment from domestic manufacturers that would enable LPTV stations to transition to digital operations by 2013 without detrimentally impacting LPTV broadcasters' services or viewers. Transition costs will vary depending on a station's equipment and transmission needs. Harris estimates that costs for transitioning a LPTV station to digital operations could range from $15,000 for the lowest power LPTV transmitter requiring minimal complimentary digital equipment, to as much as $100,000 for the highest power LPTV transmitter requiring significant complimentary digital equipment.[8] While these are considerable costs, they are significantly less than the several hundreds of thousands to millions of dollars spent by full-power broadcast stations to transition to digital operations.

Based on Harris' extensive experience in the manufacturing and installation of broadcast equipment, including approximately 80% broadcasters during the full-power DTV transition, Harris believes that it is possible to convert all LPTV, Class A, and Translator stations to digital operations by the end 2013.[9] While the manufacturing industry could supply all LPTV stations with the necessary digital equipment by 2012, in light of the financial and resource concerns expressed by the LPTV community Harris believes a 2013 deadline may be more appropriate. Harris strongly disagrees with commenters that contend that the manufacturing industry would

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transition as a high-order national priority because of the recognized benefits that digital transmission can provide in quality, flexibility, and new service offerings to the public. These benefits should be delivered to LPTV audiences and to rural areas dependent on TV translators at an early date." Comments of the National Translator Association, MB Docket No. 03-185, pg. 1 (filed December 17, 2010); "The conversion of all public television translator stations to digital operation will allow more communities to benefit from the HD, mobile, multicast, datacast, and public safety services delivered by the nation's public television stations." Comments of National PTV, *supra* note 2, at pg. 12.

[8] The range of digital transmitters in this estimate takes into account transmitters between 100 watts and 5 kilowatts. "Complimentary digital equipment" includes pieces of broadcasting equipment of significant value, namely encoders and antennas.

[9] In the Commission's last count of broadcast station licensees the Commission determined there were 4,518 UHF and VHF Translator licensees, 2,287 UHF and VHF Low-Power Stations, and 525 UHF and VHF Class A stations. It should be noted that these numbers do not account for which licensees are actually operating on their frequencies or which have already been converted or are in the process of converting to digital operations. Broadcast Station Totals as of September 30, 2010, *Federal Communications Commission News Release* (rel. Oct. 22, 2010).

not be able to supply the necessary equipment by 2012.[10] While there is no doubt that completing a nationwide LPDTV transition for over 7,000 low-power broadcasters will be labor intensive, the amount of time and cost required to transition a single LPTV station is significantly less than required for a full-power station. The benefit provided to both the public and owners of LPTV stations by transitioning to digital operations far outweighs the financial and technical burdens that may be associated with such a transition.[11]

The complexity of transitioning full-power broadcasters to digital operations is far more time consuming and resource intensive than converting the vast majority of LPTV stations. The size and weight of full-power digital equipment is much larger and heavier than LPTV digital equipment. During the full-power television DTV transition many full-power broadcasters needed to construct new towers to facilitate dual operations since existing towers could not support the weight of both analog and digital equipment. Even when full-power broadcasters did not need to construct new towers the size and weight of full-power digital equipment required specially trained and certified tower crews, of which there are only a limited number in the country. Complete installation of full-power digital equipment could take anywhere from a week for the least complex jobs to months for the most complex jobs.

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[10] "It took more than a decade for the full power industry to firm up their operating parameters and arrange for equipment purchases and installation, and there are only 1,783 full power stations. As noted in the FNPRM, there are some 7,536 LPTV stations (including TV translators). The manufacturing industry will not be able to supply all those stations by the 2012 date suggested in the FNPRM, nor will stations be able to find enough engineers to perform installations and tower riggers to change out antennas where necessary." Comments of The Low Power Television Licensee Group, MB Docket No. 03-185, pg. 4 (filed December 17, 2010).

[11] "Completing the transition will bring the benefits of digital television to all Americans, and setting a specific deadline will bring clarity and certainty to the license-holders." Comments of National PTV, *supra* note 7, at pg. 4; "The broad consumer benefits of both of these proposals far outweigh the costs of the transition, and the proposals should be effectuated without further delay…The success of the process used to transition full-power TV stations to digital demonstrates the value of a hard transition deadline. A similar approach for LPTV will best facilitate transition of low-power broadcasters to digital, in-core frequencies without harming licensees or disenfranchising viewers. Both proposals would serve the Commission's broadband and other policy goals as well as the public interest, and should therefore be adopted." Comments of CEA, *supra* note 7, at pg. 2.

In contrast, LPTV digital equipment is not as heavy or large as full-power digital equipment. While an extremely high level of skill is still needed to install LPTV equipment, there is a larger pool of crews that can be tapped to complete the type of installation required by LPTV broadcasters. In addition, for those LPTV stations that choose to use a digital companion channel it is not likely that new towers will need to be built because existing towers will likely be able to simultaneously support the load of both legacy analog and new digital equipment. While there may be significantly more LPTV stations, some of which are located in remote areas with very specific timeframes for conducting installation and maintenance, it is much less time consuming and resource intensive to install new digital LPTV equipment. On average, installing new LPTV digital equipment could take anywhere from a few hours to a few days. While there are some situations where installation could take longer, it is unlikely very many LPTV stations will require the labor intensive, month long installations, that were required by broadcasters during the full-power DTV transition.

Harris recognizes that while the LPDTV transition may be technically feasible there are financial and resource issues that may prevent all LPTV broadcasters from completing their transition by the end of 2013. Therefore, Harris encourages the Commission to put in place a process by which LPTV stations can file hardship requests, on a case by case basis, to receive waiver of the transition deadline for a specified period of time.[12] To lessen the financial burden on LPTV stations and decrease the number of hardship cases the Commission should recommend to Congress that the NTIA LPTV and Translator Upgrade Grant Program be

[12] "Due to the constraints and nature of LPTV broadcasters (*i.e.,* low revenue, niche viewership, and hyper-local content) Harris believes the Commission should establish a process to address "hardship" cases. The Commission should require LPTV stations requesting an extension of the mandated LPDTV transition deadline to file a *Request for Waiver* in accordance with the Commission's waiver rules. In addition to meeting the Commission's threshold waiver requirements, Petitioners should be required to demonstrate that they have made a good faith effort to make a timely transition and provide detailed information, financial or otherwise, as to why they will be unable to meet the mandated deadline." Comments of Harris, *supra* note 6, at pgs. 5-6.

extended to all LPTV stations.[13] Since grant funds are limited the Commission could recommend that grants are provided on a priority basis according to financial need, however, no LPTV station should not be excluded from applying for a grant.

III. THE COMMISSION SHOULD ENCOURAGE LOW-POWER TELEVISION STATIONS TO BE A TESTING GROUND FOR NEW INNOVATIVE BROADCAST SERVICES.

Consumer consumption of mobile data is exploding, growing from 6 petabytes per month in 2008 to 400 petabytes per month by 2013.[14] Video is expected to account for the majority of mobile data traffic in the future. According to Cisco, nearly 64 percent of the world's mobile traffic is expected to be video by 2013.[15] Mobile data, specifically video, should be considered the most significant contributor to what Chairman Genachowski has characterized as America's "looming spectrum crisis."[16] Broadcasters, through their ability to serve one-to-many, are well situated to provide spectrally efficient mobile data solutions, especially video.[17]

Digital spectrum provides broadcasters with significant opportunities to expand the scope of their offerings to consumers including High Definition programming, multicasting, Mobile

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[13] "However, since only LPTV stations in "rural communities" are eligible to receive grant funding from the LPTV Grant Program, Harris recommends that the Commission submit a request to Congress to expand the eligibility of the program to include all LPTV stations. At minimum, the Commission should recommend to Congress that the LPTV Grant Program be expanded to include any LPTV station, regardless of location, that can demonstrate an inability to meet the Commission's mandated LPDTV Transition date due to financial hardship." Id. at pgs. 8-9.

[14] Prepared Remarks of Julius Genachowski, Chairman, Federal Communications Commission, International CTIA Wireless I.T. & Entertainment, "America's Mobile Broadband Future," pg. 5 (Oct. 7, 2009) available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293891A1.pdf.

[15] Comments of CTIA, In the Matter of a National Broadband Plan For Our Future, *Public Notice Number 6,* GN Docket Nos. 09-47, 09-137, 09-51, pg. 11 (filed Oct. 23, 2009).

[16] Prepared Remarks of Chairman Genachowski, *supra* note 14, at pg. 4.

[17] "Broadcasters generate tremendous efficiencies through their ability to serve "one-to- many" in small bandwidth segments—efficiencies that cannot otherwise be achieved. Indeed, with each additional viewer, a broadcaster's use of spectrum becomes more efficient, because increasing the number of viewers places no additional incremental burden on the spectrum." Statement Senator Gordon Smith, CEO and President, National Association of Broadcasters, Before the United States House of Representatives Committee on Energy and Commerce, Subcommittee on Communications, Technology and the Internet, Hearing on "Spectrum Inventory and Relocation" (Dec. 15, 2009).

DTV, real time and non-real time data services, interactive wireless services, and Internet access. The Commission should encourage LPTV stations to be the breeding ground for innovation in the broadcast industry. Harris is not opposed to the Commission's recommendation to require LPTV stations operating pursuant to a digital STA file an Annual DTV Ancillary/Supplementary Services Report (FCC Form 317). Such a filing would allow the Commission to assess the nature of ancillary and supplementary services across LPTV stations and understand the type of innovation occurring within the broadcast industry. However, placing fees on the revenue of ancillary and supplementary services offered by LPTV stations operating pursuant to a digital STA will likely inhibit innovation in the broadcast industry.

The amount of revenue that LPTV stations operating pursuant to a digital STA would receive through ancillary and supplementary services would likely be minimal and not rise to the level of unjust enrichment. A large portion of revenue received by LPTV stations operating pursuant to an STA will likely go towards research and development costs for the production of new services. The Commission stands to recover significantly more value for the public from broadcasters' use of public spectrum for ancillary and supplementary services by allowing LPTV stations operating pursuant to a digital STA to develop new services without being subject to any fees. Through the use of digital STAs equipment vendors and broadcasters can work together to develop innovative ancillary and supplementary services that could be adopted throughout the broadcast industry. New ancillary and supplementary services adopted by LPTV licensees and full-power broadcasters could generate significant new sources of new revenue for both broadcasters and the government. Not requiring LPTV stations operating pursuant to a digital STA to pay a percentage of their ancillary and supplementary service revenues would conform with the language and intent of 47 U.S.C. § 336(e).

IV. CONCLUSION.

For the foregoing reasons, Harris supports a final LPDTV transition date of December 31, 2013 and out of core LPDTV transition date by the later of December 31, 2012 or six months following the Commission's approval of a station's displacement application. Harris believes there is a readily available supply of modestly priced broadcast equipment that will enable LPTV stations to complete their digital transition by 2013 without detrimentally impacting LPTV broadcasters' services or viewers. Additionally, in order to encourage innovation in the broadcast industry the Commission should not require LPTV stations operating pursuant to a digital STA to provide to the Commission a percentage of their revenue obtained from ancillary and supplementary services. Harris looks forward to working with the LPTV community to facilitate their transition to digital broadcasting.

Respectfully submitted,

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